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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/772,590 | 02/04/2004 | Roberto Pelliconi | 61181-00011USPX | 2338 |
| 23932 7590 05/30/2007 JENKENS & GILCHRIST, PC 1445 ROSS AVENUE SUITE 3200 DALLAS, TX 75202 | | | EXAMINER ZHENG, EVA Y | |
| | | | ART UNIT 2611 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/772,590 | Applicant(s) PELLICONI ET AL. | |
| | Examiner Eva Yi Zheng | Art Unit 2611 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 10 is/are allowed.
- 6) ☒ Claim(s) 1,8,11,12,14-17,19 and 24 is/are rejected.
- 7) ☒ Claim(s) 2-7,13,18,20-23 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 1-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 8, 14-17, 19, and 24 are rejected under 35 U.S.C. 102(e) as being unpatentable by Hirose et al (US 6,917,995).

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a) Regarding to claim 1, Hirose et al disclose a method for synchronizing the data interchange in a semiconductor substrate integrated electronic circuit (IC; abstract) comprising a transmitter block (block A in Fig. 1A) and a receiver block (block B in Fig. 1A) connected through a communication network, comprising:

generating a data signal having a transmission period on a first line that from said transmitter block must be received by the receiver block (command bus line in Fig. 1A);

generating on a second line a congestion signal from the receiver block to the transmitter block when a congestion event (when number of commands reach maximum limit) of the receiver block occurs in order to interrupt the transmission of said data signal (BUSY bus line in Fig. 1A; Col 1, L52-59); and

generating on a third line a synchro signal starting from said transmitter block (STRB bus line in Fig. 1A), this synchro signal indicating to the receiver block that the data signal comprises a new datum (Fig. 1B; Col 1, L60-65), and in that the congestion signal interrupts also the transmission of said synchro signal when a congestion event of the receiver block occurs (Fig. 1B; Col 1, L63-Col 2, L6; STRB signal stops after the BUSY signal is sent).

b) Regarding to claim 8, Hirose et al disclose further including generating, on a couple of further line, a couple of unidirectional signals indicating the transmission direction between said transmitter block and said receiver block (Fig. 2A and 2C), a negotiation to define the transmission direction being controlled by a further transmission request signal driven by the receiver block (counter 18, controller A, counter 18B, controller B constitutes as negotiator).

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c) Regarding to claim 14, Hirose et al disclose a communication protocol, comprising:

transmitting (block A in Fig. 1A) along with a data signal (command bus line) a synchronization signal (STRB bus line) indicating to a receiving entity that the data signal comprises new datum (Fig. 1B; Col 1, L60-63); and

inhibiting transmission of the synchronization signal in response to an indication received from the receiving entity of the existence of a congestion condition (BUSY bus line in Fig. 1A; Col 1, L52-59) at the receiving entity (Fig. 1B; Col 1, L63-Col 2, L6; STRB signal stops after the BUSY signal is sent).

d) Regarding to claim 15, Hirose et al disclose wherein the data signal is communicated on a first communication line (Command signal line in Fig. 1A) synchronization signal is communicated on a second communication line (STRB signal line in Fig. 1A).

e) Regarding to claim 16, Hirose et al disclose wherein the indication of the existence of a congestion condition at the receiving entity is received over a third communication line (BUSY signal line in Fig. 1A).

f) Regarding to claim 17, Hirose et al disclose including inhibiting transmission of the data signal in response to the indication received from the receiving entity of the existence of a congestion condition at the receiving entity (Fig. 1B; data transmission stops after 5 commands).

g) Regarding to claim 19, Hirose et al disclose a communication system, comprising:

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- a first communication block (block A in Fig. 1A);
 - a second communication block (block B in Fig. 1A);
 - a communication network interconnecting the first and second communication blocks (Fig. 1A); the communication network comprising:
 - a first communication line for carrying a data signal (command bus line in Fig. 1A);
 - a second communication line for carrying a congestion signal (BUSY bus line in Fig. 1A; Col 1, L52-59); and
 - a third communication line for carrying a synchronization signal (STRB bus line in Fig. 1A); wherein the synchronization signal is active whenever the data signal on the first communication is new datum and inactive whenever the congestion signal on the second communication line is active (Fig. 1B; STRB signal is active as the command signal is new and within process limit, while STRB stops transmitting when BUSY is active after limit of commands has reached).
- h) Regarding to claim 24, Hirose et al disclose wherein transmission of the data signal in the first communication line is inhibited whenever the congestion signal on the second communication line is active (Fig. 1B; command signal is stop after 5 commands, while BUSY signal is active after the 5 commands).
4. Claim 11 is rejected under 35 U.S.C. 102(a) as being unpatentable by Applicant Admitted Prior Art (AAPA).
- a) Regarding to claim 11, AAPA disclose an architecture for manufacturing an integrated electronic circuit being integrated on a semiconductor substrate comprising a

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transmitter block (2a in Fig. 1) and a receiver block (3a) connected through a communication network, said communication network comprising a plurality of signal lines each split in elementary blocks (An), each block being separated through a repeater (Bn), said elementary blocks being connected to said receiver and transmitter blocks through interface devices equipped with unidirectional signals ([0015-0018]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Hirose et al (US 6,917,995).

Regarding to claim 12, AAPA disclose all the subject matter above except for the specific teaching of unidirectional signals and negotiation for transmitter and receiver.

However, Hirose teaches a communication system between two integrated circuit devices, wherein data and control lines are interposed between microprocessor A and bridge chip B (Fig. 2C). CMD_STRB_A, CMD_STRB_B, Command-A, Command-B, CMD_READY_A, and CMD_READY_B are all unidirectional signals indicating the transmission direction between the transmitter and receiver. Counter 18, controller A, counter 18B, controller B constitutes as negotiator to define the transmission direction being controlled by a further transmission request signal driven by the receiver (Col 4,

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L43-64). This increases the bus access efficiency even more (Col 6, L56-57).

Therefore, it is obvious to one of ordinary skill in art to combine the teaching of IC communication system of Hirose et al with AAPA. By doing so, provide communication between integrated circuit devices at higher frequencies and more access efficiency of bus lines.

Allowable Subject Matter

7. Claims 2-7, 13, 18, 20-23 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 9 and 10 are allowed.

9. The following is an examiner's statement of reasons for allowance:

None of the prior art teaches or suggests a communication system between integrated circuit devices comprises a transmitter block and a receiver block, wherein the system comprise a first communication line for data, a second line for congestion signal, and a third line for synchro signal. The first, second and third lines are split in corresponding stages, each stages being separated through a corresponding repeater, the repeaters of the first and third lines being of the tristate type and being driven by the repeater of the second line when a congestion event occurs so that the data signal and the synchro signal are stored in the stages of the first and second lines.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Y Zheng whose telephone number is 571-272-3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eva Yi Zheng
Examiner
Art Unit 2611

May 16, 2007


CHIEH M. FAN
SUPERVISORY PATENT EXAMINER